

polyester acrylate oligomer; a methacrylic ester, e.g., tetramethylene glycol dimethacrylate, triethylene glycol dimethacrylate, neopentyl glycol dimethacrylate, trimethylolpropane trimethacrylate, trimethylolethane trimethacrylate, ethylene glycol dimethacrylate, 1,3-butanediol dimethacrylate, hexanediol dimethacrylate, pentaerythritol dimethacrylate, pentaerythritol trimethacrylate, pentaerythritol tetramethacrylate, dipentaerythritol dimethacrylate, dipentaerythritol hexamethacrylate dipentaerythritol pentamethacrylate, sorbitol trimethacrylate, sorbitol tetramethacrylate, bis-[p-(3-methacryloxy-2-hydroxypropoxy)phenyl]dimethylmethane or bis-[p-(methacryloxyethoxy)phenyl]dimethylmethane; an itaconic ester, e.g., ethylene glycol diitaconate, propylene glycol diitaconate, 1,3-butanediol diitaconate, 1,4-butanediol diitaconate, tetramethylene glycol diitaconate, pentaerythritol diitaconate or sorbitol tetrailtaconate; a crotonic ester, e.g., ethylene glycol dicrotonate, tetramethylene glycol dicrotonate, pentaerythritol dicrotonate or sorbitol tetracrotonate; an isocrotonic ester, e.g., ethylene glycol diisocrotonate, pentaerythritol diisocrotonate or sorbitol tetraisocrotonate; and a maleic ester, e.g., ethylene glycol dimaleate, triethylene glycol dimaleate, pentaerythritol dimaleate or sorbitol tetramaleate.

Also, a polyfunctional acrylate or methacrylate, for example, a polyester acrylate or a epoxy acrylate obtained by reacting an epoxy resin with (meth)acrylic acid as described in JP-A-48-64183, JP-B-49-43191 and JP-B-52-30490 is employed. Further, photo-curing monomers and oligomers as described in Nippon Setchaku Kyoukaishi, Vol. 20, No. 7, pages 300 to 308 (1984) are employed.

The ethylenically unsaturated compound is used in an amount of from 5 to 80% by weight, preferably from 30 to 70% by weight, based on the whole composition of the photosensitive layer.

The photopolymerization initiator incorporated into the photosensitive layer of the photosensitive lithographic printing plate according to the present invention can be appropriately selected from various kinds of known photo-initiators described in patents and literature depending on a wavelength of light source to be used. A combination of two or more photo-initiators (photo-initiator system) is also used. Specific examples thereof are set forth below, but the present invention should not be construed as being limited thereto.

In case of using visible light having a wavelength of 400 nm or more, an Ar laser, a second harmonic wave of a semiconductor laser or an SHG-YAG laser as the light source, various photo-initiators have been proposed. For

instance, a certain kind of photo-reducing dyes as described in U.S. Patent 2,850,445, for example, Rose Bengale, Eosine or erythrosine, and a combination system comprising a dye and a photo-initiator, for example, a composite photo-initiator system comprising a dye and an amine as described in JP-B-44-20189, a combination of a hexaarylbiimidazole, a radical generator and a dye as described in JP-B-45-37377, a combination of a hexaarylbiimidazole and a p-dialkylaminobenzylidene ketone as described in JP-B-47-2528 and JP-A-54-155292, a combination of a cyclic cis- α -dicarbonyl compound and a dye as described in JP-A-48-84183, a combination of a cyclic triazine and a merocyanine dye as described in JP-A-54-151024, a combination of a 3-ketocoumarin and an activator as described in JP-A-52-112681 and JP-A-58-15503, a combination of a biimidazole, a styrene derivative and a thiol as described in JP-A-59-140203, a combination of an organic peroxide and a dye as described in JP-A-59-1504, JP-A-59-140203, JP-A-59-189340, JP-A-62-174203, JP-B-62-1641 and U.S. Patent 4,766,055, a combination of a dye and an active halogen compound as described in JP-A-63-258903 and JP-A-2-63054, a combination of a dye and a borate compound as described in JP-A-62-143044, JP-A-62-150242, JP-A-64-13140, JP-A-64-13141, JP-A-64-13142, JP-A-64-13143, JP-A-64-13144, JP-A-64-17048, JP-A-1-229003, JP-A-1-298348